

CERTIFICATE OF MAILING

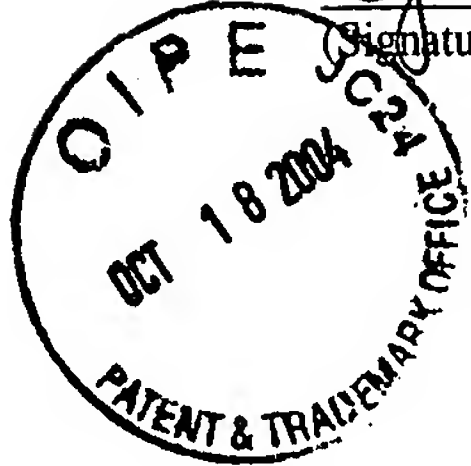
I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA , 22313-1450 on October 14, 2004

Jeannie Camara

(Typed or Printed Name of Person Mailing Paper or Fee)

Jeannie Camara

(Signature of Person Mailing Paper or Fee)



PATENT APPLICATION
Attorney Docket No. SUN-P6578-PIP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE PATENT APPLICATION OF

Ralph B. Campbell

Serial No. 10/043,038

Filing Date: November 7, 2001

Title: METHOD AND APPARATUS FOR
LOGGING FILE SYSTEM OPERATIONS

)
) Examiner: Manoskey, Joseph D.
)
) Group Art Unit: 2113
)
)
)
)
)
)

AMENDMENT TRANSMITTAL LETTER

Mail Stop: Non-Fee Amendment
Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In connection with the above-referenced U. S. patent application, transmitted herewith are the following papers:

- ☒ Response under 37 C.F.R. § 1.111 to official action mailed September 30, 2004.
- ☐ A petition for extension of time is also enclosed with a fee of \$55.00 for a one-month extension for a small entity.
- ☐ Terminal disclaimer under 37 C.F. R. § 1.321(c), including
 - ☐ check for \$110.00 fee under 37 C.F.R. § 1.20(d), and
 - ☐ 2 certificates under 37 C.F.R. § 3.73(b).
- ☒ Appendix including a copy of the postcard from the USPTO and page 8 of the specification .
- ☒ No additional claims fees are required.


☐ An additional fee is required, and is calculated as shown below:

AMENDED CLAIMS					
	NO. OF CLAIMS	HIGHEST NO. OF CLAIMS PREVIOUSLY PAID FOR	EXTRA CLAIMS	RATE	ADDT'L FEE
Total Claims		MINUS = 20	0	x \$18 =	
Independent Claims		MINUS = 3	0	x \$78 =	
If Amendment adds multiple dependent claims, add \$260.00					
Total Amendment Fee					
If small entity status is claimed, subtract 50% of Total Amendment Fee					
TOTAL ADDITIONAL FEE DUE FOR THIS AMENDMENT					\$0.00

- ☐ A check in the amount of \$____ is enclosed.
☐ Charge \$____ to Deposit Account No. ____ (Docket No. ____).
☒ Please deduct any underpayments, credit any overpayments, and charge all required extension of time fees to Deposit Account Number 50-1003. (Docket No. SUN-P6578).

Edward J. Grundler
Park, Vaughan & Fleming LLP
508 Second Street, Suite 201
Davis, CA 95616
Tel: (530) 759-1663
FAX: (530) 759-1665

Respectfully submitted,

By 
Edward J. Grundler
Registration No. 47,615

Date: October 14, 2004

Patent Application for:
METHOD AND APPARATUS FOR LOGGING FILE SYSTEM OPERATIONS
Inventor(s): Ralph Campbell et al.

Please stamp and confirm receipt in the U.S. Patent Office of the following:

- ☒ Specification and Abstract: 11 pages
- ☒ Claims: 8 pages
- ☒ Drawings: 3 pages
- ☒ Power of Attorney/Declaration of Inventor(s) 7000
- ☒ Assignment and PTO-Form 1595
- ☐ Power of Attorney by Assignee
- ☐ Small Entity Declaration
- ☒ Filing Fee Amount: Check for \$ 1,014.00
- ☒ Express Mail Certificate No. EL917901768 US
- ☒ Authorization to Charge Deposit Account No. 50-1003
- ☒ Other Postcard

RECEIVED

JC973 U.S. PTO
10/04/01
11/07/01

Attorney Docket No.: SUN-P6578-PIP
Date Mailed: November 7, 2001

Attorney: A. Richard Park

operation from client application 104. Next, the system checks for dependencies with ongoing file system operations (step 204).

For example, the file system operation may have a file ID in common with an ongoing operation, or the file system operation may involve the same metadata
5 as another ongoing file system operation. In this case, the system ensures that related file system operations complete in an order that satisfies any dependencies between the related file system operations.

In another example, a first file system operation creates a file and a second file system operation deletes the same file. In this case, the first file system
10 operation must take place before the second file system operation. Otherwise, the second file system operation will attempt to delete a non-existent file.

Note that step 204 can involve locking around steps 206, 208, 210, 212 and 214 below, so that the log matches the operations to the file and the steps for one operation are not interleaved with other operations to the same file.

15 Next, the system gets a transaction ID for a set of related file system operations (step 206). This allows the set of related file system operations to be grouped together so that the system can ensure that they occur together.

The system then makes a call to the underlying file system to perform the operation (step 208). If the underlying file system returns a failure, the system
20 returns an error to client application 104 (step 210).

Otherwise, the system translates the file system operation into a log entry (step 212), and stores the log entry to a log device along with the transaction ID (step 214). Note that the log entry includes information needed to perform step 208 on the secondary 103. This can include arguments and data needed to repeat
25 an operation and the transaction ID or some other means of repeating the operation in the same order on secondary 103. (Normally, the order of records a log is the order to replay them.)